LPS Bulletin – Reliability
RI-Poly-Bleeder Valve Spool Leak 12-Dec-09

IPS Control: 1756575

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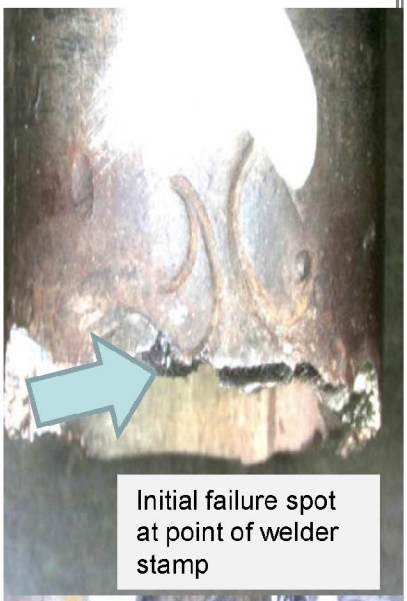

Initial failure spot at point of welder stamp

Leak rapidly sheared off pipe

URIP
Design/Care/Fix/Prevent

Incident Description:

WHEN: **December 12nd, 2009**
WHERE: **Richmond**
WHAT: **Bleeder Valve Spool Leak**
SUMMARY: During the Poly plant recirculation process, a leak developed on a ¾" bleeder valve. The product of the leak was reactor effluent polymers. This leak grew worse rapidly (the piping sheered off) and the decision was made to snuff the fires in the furnaces and dump acid / plant pressure. Chevron Fire Department responded, water was put on leak and after plant pressure was low enough, the leak was isolated.

Investigation Findings:

1. Use of a non-low stress weld stamp caused a pipe defect.
2. There was no process in place to ensure recirculation line block valves remain open during normal operation so that board operators can initiate recirculation without causing pressure spikes in the plant.

Lessons Learned/Business Practices:

1. Non-low stress weld stamps can cause defects in metal and when subjected to additional stress, such as pressure spikes, may cause the metal to fail prior to its design limits.
2. The position of these critical recirculation line block valves must be checked on a routine basis to ensure proper response of the plant when shifts are made from the control board.

Recommendations:

1. Audit welding QA/QC procedures to verify Refinery metals craft manual requires low stress stamps.
2. Develop and implement processes that require contractors and their QC departments to use low stress stamps.
3. Add this incident to the trainees' welding training programs.
4. Develop and implement process that carseals open and checks the position of these critical block valves on a monthly basis .
5. Train all crews on Recommendation #4 and the basis behind it.

Tenets of Operations Violated:

3. Always ensure safety devices are in place and functioning.
6. Always maintain integrity of dedicated systems.